Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A computer program product, tangibly embodied in ~~an information carrier~~ a machine-readable storage device, the computer program product comprising instructions operable to cause data processing apparatus to perform operations comprising:

identifying in a Web browser in a client computer a change of a user interface (UI) element that references a node of a document object model (DOM) hierarchy in the browser, the UI element being an element of a user interface page received from a server computer, rendered by the browser, and provided as a screen presentation to a user of the client computer, the identified change occurring after the user interface page had been received and rendered by the browser in the client computer;

determining in the browser whether the change of the UI element can be applied to the DOM hierarchy by ~~using an update function~~applying a delta renderer to the DOM hierarchy, the delta renderer being a set of update functions that can modify the DOM representation of a UI element directly in the browser;

if the change can be applied by ~~using~~ the ~~update function~~ delta renderer, the browser finding in the DOM hierarchy the node that is referenced by the UI element and modifying at least one attribute related to the node according to the change by using at least one of the update functions of the delta renderer to directly modify the attribute in the DOM hierarchy; and

else, setting a dirty flag.

2. (Cancelled)

3. (Original) The product of claim 1, wherein the dirty flag indicates invalidity of a cached DOM representation of the UI element.

4. (Original) The product of claim 1, wherein the dirty flag indicates invalidity of a cached DOM representation of a further UI element that is a parent of the UI element.

5. (Original) The product of claim 3, wherein the cached DOM representation comprises the node and the at least one attribute is an attribute of the node.

6. (Original) The product of claim 4, wherein the cached DOM representation comprises the node and the at least one attribute is an attribute of the node.

7. (Original) The product of claim 3, wherein the cached DOM representation comprises a sub-hierarchy of the DOM hierarchy and the node is the root node of the sub-hierarchy and the at least one attribute is an attribute of a sub-node of the sub-hierarchy.

8. (Original) The product of claim 4, wherein the cached DOM representation comprises a sub-hierarchy of the DOM hierarchy and the node is the root node of the sub-hierarchy and the at least one attribute is an attribute of a sub-node of the sub-hierarchy.

9. (Currently amended) A computer program product, tangibly embodied in ~~an information carrier~~ a machine-readable storage device, the computer program product comprising instructions operable to cause data processing apparatus to perform operations comprising:

receiving a request to render a user interface (UI) element of a ~~UI tree~~UI tree in a client computer, the UI tree representing in the client computer a hierarchical structure of UI elements contained in a user interface page received in the client computer from a server computer, the UI element being an element of the user interface page;

determining whether a dirty flag is set for a cached document object model (DOM) representation of a flagged UI element that is on the path of the UI element in the UI tree~~;~~, the flagged UI element having a reference to a node of the DOM hierarchy, the cached DOM representation being in the client computer, the UI element being different from the flagged UI element;

if the dirty flag is set, generating in the client computer a new DOM representation of the flagged UI element and inserting the new DOM representation into the DOM hierarchy by using

the ~~UI tree~~UI tree and the reference to the node; and else, inserting the cached DOM representation in the client computer into the DOM hierarchy by using the ~~UI tree~~UI tree and the reference to the node.

10. (Original) The product of claim 9, wherein the cached DOM representation is a cached sub-tree of the DOM hierarchy and the node is the root node of the cached sub-tree.

11. (Original) The product of claim 9, wherein the new DOM representation is a new sub-tree of the DOM hierarchy and the node is the root node of the new sub-tree.

12. (Currently amended) Apparatus comprising:

means for identifying in a Web browser in a client computer a change of a user interface (UI) element that references a node of a document object model (DOM) hierarchy in the browser, the UI element being an element of a user interface page received from a server computer, rendered by the browser, and provided as a screen presentation to a user of the client computer, the identified change occurring after the user interface page had been received and rendered by the browser in the client computer;

means for determining in the browser whether the change of the UI element can be applied to the DOM hierarchy by ~~using an update function~~ applying a delta renderer to the DOM hierarchy, the delta renderer being a set of update functions that can modify the DOM representation of a UI element directly in the browser; and

means for, if the change can be applied by ~~using~~ the ~~update function~~ delta renderer, the browser finding in the DOM hierarchy the node that is referenced by the UI element and modifying at least one attribute related to the node according to the change by using at least one of the update functions of the delta renderer to directly modify the attribute in the DOM hierarchy; and else, setting a dirty flag.

13. (Cancelled)

14. (Original) The apparatus of claim 12, wherein the dirty flag indicates invalidity of a cached DOM representation of the UI element.

15. (Currently amended) Apparatus comprising:

means for receiving a request to render a user interface (UI) element of a ~~UI-tree~~UI tree in a client computer, the UI tree representing in the client computer a hierarchical structure of UI elements contained in a user interface page received in the client computer from a server computer, the UI element being an element of the user interface page;

determining whether a dirty flag is set for a cached document object model (DOM) representation of a flagged UI element that is on the path of the UI element in the UI tree; the flagged UI element having a reference to a node of the DOM hierarchy, the cached DOM representation being in the client computer, the UI element being different from the flagged UI element; and

means for, if the dirty flag is set, generating in the client computer a new DOM representation of the flagged UI element and inserting the new DOM representation into the DOM hierarchy by using the ~~UI-tree~~ UI tree and the reference to the node; and else, inserting the cached DOM representation in the client computer into the DOM hierarchy by using the ~~UI-tree~~ UI tree and the reference to the node.